



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------------|------------------|
| 10/586,205 | 07/13/2006 | Carlo Liberale | CCV/Dresser 030957 US (CM) | 4778 |
| 64833 7590 10/31/2008 FLETCHER YODER (CAMERON INTERNATIONAL CORPORATION) P.O. BOX 1212 HOUSTON, TX 77251 | | | | |
| EXAMINER SCHNEIDER, CRAIG M | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 3753 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 10/31/2008 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/586,205

Applicant(s)

LIBERALE ET AL.

Examiner

CRAIG M. SCHNEIDER

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-893)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 7/13/06

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the submarine device of claim 1, the power supply lines associated with the controlled submarine device of claim 9, the flow control mechanism of claim 18, and the submerged flow control mechanism of claim 22 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

TITLE OF THE INVENTION.

CROSS-REFERENCE TO RELATED APPLICATIONS.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.

THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.

INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.

BACKGROUND OF THE INVENTION.

Field of the Invention.

Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

BRIEF SUMMARY OF THE INVENTION.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

DETAILED DESCRIPTION OF THE INVENTION.

CLAIM OR CLAIMS (commencing on a separate sheet).

ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

3. The disclosure is objected to because of the following informalities:

On page 1, line 10 "pluralità" should be --plurality--.

On page 1, line 12 "the transport" should be --that transport--.

On page 4, lines 19-23 the description for Figures 2 and 3 are backwards.

On page 5, line 25 "element 2" should be --element 3--.

On page 8, line 2 "figure 3" should be --figure 4-- .

On page 8, line 13 "quoted cables 7. the quoted connectors" should be --electric cables 7, the connectors--.

On page 12, line 12 "manoeuvre" should be --maneuver--.

Appropriate correction is required.

Claim Objections

4. Claim 4 is objected to because of the following informalities:

Line 1 "couplet" should be --coupled--.

Claim 8 is objected to because of the following informalities:

Line 2 "transported" should be --attached to--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Regarding claim 3, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

8. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to how the electrical power supply lines are

being provided through the controlled submarine device and therefore the claim is indefinite.

9. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claim 16 recites the limitation "the pressure balancing device" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1, 3, 8, and 9 are rejected as understood under 35 U.S.C. 102(b) as being anticipated by Schoenberg (5,166,677).

Schoenberg discloses a submarine actuator for the actuation of a submarine device comprising a container body (11) from which a drive shaft (18) projects that is suitable for inserting in a seat of the submarine device and suitable, through its rotation, for actuating the submarine device, the shaft is moved by at least one electric motor (15) arranged inside the container body and actuated by an electric control signal generated by a remote control station, characterized in that the container body comprises a box-shaped element (13), inside which at least one electric motor and the

drive shaft area arranged, and a substantially cylindrical element (12) inside which there is an electronic control board for the at least one motor (col. 6, lines 4-54).

Regarding claim 3, the substantially cylindrical element is a hermetic container into which a pressurized gas is inserted. It is inherent that a gas is present in chamber 12 because of the electrical components.

Regarding claim 8, the power supply of the at least one electric motor can be carried out through a suitable power supply cable (30) transported by the remote control station to the submarine actuator.

Regarding claim 9, the electrical power supply of the at least one electric motor can be directly obtained from the electrical power supply lines (wires from 15 to 27 to 25 and 26) associated with the controlled submarine device.

13. Claims 10-13 and 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Johansen et al. (6,595,487).

Johansen et al. disclose a system comprising a submersible actuator (1) comprising a first housing (area that encloses the motors) having an electric motor (7 and 8) disposed in a first fluid (col. 5, lines 54-56); and a second housing (area that encloses the control components) having a control circuit disposed in a second fluid (air), wherein the second fluid is different from the first fluid, the control circuit is coupled to the electric motor, and the control circuit is configured to communicate with the remote control station (col. 5, line 27 to col. 7, line 17).

Regarding claim 11, wherein the second fluid is a pressurized gas would be inherent in an electrical enclosure otherwise the electrical components would short circuit.

Regarding claims 12 and 13, the claim is clearly anticipated by the reference.

Regarding claim 15, a pressure balancing device coupled to the submersible actuator and configured to balance internal and external pressures (col. 5, lines 54-56).

Regarding claims 18 and 19, the system comprising a flow control mechanism (2) coupled to the submersible actuator.

Regarding claims 20-22, the method claims are clearly anticipated by the apparatus of Johansen et al.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1-3, 6-9 are rejected as understood under 35 U.S.C. 103(a) as being unpatentable over Johansen et al. (6,595,487) in view of Schoenberg (5,166,677).

Johansen et al. disclose a submarine actuator for the actuation of a submarine device comprising a container body from which a drive shaft (5) projects that is suitable for inserting in a seat of the submarine device and suitable, through its rotation, for actuating the submarine device, the shaft is moved by at least one electric motor (7 and 8) arranged inside the container body and actuated by an electric control signal

generated by a remote control station (col. 5, line 27 to col. 7, line 17). Johansen et al. do not disclose that the container body comprises a box-shaped element, inside which at least one electric motor and the drive shaft area arranged, and a substantially cylindrical element inside which there is an electronic control board for the at least one motor. Schoenberg discloses that the container body comprises a box-shaped element (13), inside which at least one electric motor and the drive shaft area arranged, and a substantially cylindrical element (12) inside which there is an electronic control board for the at least one motor (col. 6, lines 4-54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a container as disclosed by Schoenberg with the device of Johansen et al., in order to ensure that the different components are separated as indicated by Johansen et al.

Regarding claim 2, Johansen et al. disclose two motors that are suitable for moving the drive shaft independently from each other.

Regarding claim 3, the substantially cylindrical element is a hermetic container into which a pressurized gas is inserted. It is inherent that a gas is present in chamber 12 because of the electrical components.

Regarding claim 6, the drive shaft (5) completely crosses the box-shaped element and, on its upper end, a visual recognition device (3b) of the position taken up by the submarine device controlled by the movement of the drive shaft is made.

Regarding claim 7, on the upper end of the drive shaft a seat (3b) is formed for the insertion of a possible robotized arm suitable for rotating the drive shaft in an

emergency situation in which it is not possible to actuate the drive shaft electrically as disclosed by Johansen et al.

Regarding claim 8, the power supply of the at least one electric motor can be carried out through a suitable power supply cable (15 and 16) transported by the remote control station to the submarine actuator.

Regarding claim 9, the electrical power supply of the at least one electric motor can be directly obtained from electrical power supply lines (9 and 10) associated with the controlled submarine device.

16. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen et al. in combination with Schoenberg as applied to claim 1 above, and further in view of Ursel et al. (WO 01/99259)(utilizing US Pat. 6,906,438 for translation).

Johansen et al. in combination with Schoenberg disclose a drive shaft (5) and that each motor is independently able to control the drive shaft. Johansen et al. fails to disclose that the transmission comprises a worm screw coupled to the transmission shaft and a sprocket coupled to the worm screw and the drive shaft, wherein the electric motors are coupled to the transmission shaft. Ursel et al. disclose a worm screw (26) coupled to a transmission shaft (25) and a sprocket (43) coupled to the worm screw and a drive shaft (col. 1, line 49 to col. 2, line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a worm screw/sprocket drive system as disclosed by Ursel et al. as the gearing between the motors and drive shaft of Johansen et al. in combination with Schoenberg, in order to a gearing system that prevents slipping.

17. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schoenberg in view of Armstrong (2003/0037544).

Schoenberg discloses a device for the compensation of the external pressure which is firmly connected on a side of the box-shaped element that injects pressurized oil inside it through an inlet pipeline, in order to equalize the internal pressure and the external pressure. Schoenberg does not disclose that the device for the compensation of the external pressure comprising a membrane accumulator. Armstrong discloses the use of a membrane pressure compensator (29)(col. 2, line 59 to col. 3, line 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a membrane accumulator as disclosed by Armstrong in place of the piston accumulator of Schoenberg, since the membrane accumulator of Armstrong and the piston accumulator of Schoenberg are art recognized equivalents.

18. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen et al. in view of Ursel et al. (WO 01/99259)(utilizing US Pat. 6,906,438 for translation).

Johansen et al. disclose a drive shaft (5) and that each motor is independently able to control the drive shaft. Johansen et al. fails to disclose that the transmission comprises a worm screw coupled to the transmission shaft and a sprocket coupled to the worm screw and the drive shaft, wherein the electric motors are coupled to the transmission shaft. Ursel et al. disclose a worm screw (26) coupled to a transmission shaft (25) and a sprocket (43) coupled to the worm screw and a drive shaft (col. 1, line 49 to col. 2, line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a worm screw/sprocket drive system as disclosed by Ursel et al. as the gearing between the motors and drive shaft of Johansen et al. in order to a gearing system that prevents slipping.

19. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen et al. in view of Schoenberg (5,166,677).

Johansen et al. disclose all the features of the claimed invention except it does not show the pressure balancing device and where it is connected to the unit, Schoenberg discloses a pressure balancing device (40) that is connected to the first housing (13)(col. 6, lines 55-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a pressure control device attached to the first housing as disclosed by Schoenberg with the device of Johansen et al., in order to be able pressurize the interior of the first housing at various depths.

20. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen et al.

Johansen et al. disclose all the features of the claimed invention except that the second fluid is nitrogen. The examiner is taking official notice that the use of nitrogen to create an inert atmosphere in a control circuit enclosure is old and well known in the art in order to ensure that there are no contaminants that could corrode the circuitry.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ursel et al. (6,906,438) is the English translation that is being utilized for the WO01/99259 reference.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CRAIG M. SCHNEIDER whose telephone number is (571)272-3607. The examiner can normally be reached on M-F 8:00 -4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Huson can be reached on (571) 272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. M. S./
Examiner, Art Unit 3753
October 24, 2008

/John Rivell/
Primary Examiner, Art Unit 3753